

Patent Claims

1. A method for producing or updating a radiotherapy plan within the framework of inversely planned radiotherapy, characterised in that an up-to-date
5 radiotherapy plan is calculated at least partly on the basis of the results of an already existing, approved, older plan.

2. The method as set forth in claim 1, wherein the pre-set values for calculating the inverse radiotherapy plan are determined from the results of a
10 previously calculated plan.

3. The method as set forth in claim 1 or 2, wherein the patient is subject to an imaging method, preferably a CT or MR image recording method, more than once over the duration of fractionated radiation exposure.
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4. The method as set forth in claim 3, wherein the patient is subject to an imaging method before each radiotherapy session, wherein only a specified, defined area comprising the target volume is detected.

5. The method as set forth in any one of claims 1 to 4, wherein the position of the patient relative to the imaging device is detected outside the recording range of the imaging device via locating markers, preferably infrared reflecting markers, by an imaging method, preferably a CT or MR image recording method, during or directly before or after recording a first patient data set.
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6. The method as set forth in claim 5, wherein the system for locating the markings is calibrated relative to the imaging system, such that the position of the markings can be determined relative to the recorded data.
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7. The method as set forth in any one of claims 1 to 6, wherein a data set comprising the target volume is supplemented by automatic fusion with data
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from an older, larger volume data set, in order to obtain all the data necessary for calculating the dosage.

8. The method as set forth in any one of claims 1 to 7, wherein the
5 difference between the results of a new radiotherapy plan as compared to a previous plan are automatically quantified and, if the difference is within a previously specified tolerance range, the new plan is automatically qualified as an approved plan.
- 10 9. The method as set forth in any one of claims 1 to 8, wherein, for transferring a radiotherapy plan onto a more recent planning data set, the position and form of a target volume and the organs to be protected are fully or partly adopted automatically into the new plan from the old plan.
- 15 10. The method as set forth in claim 9, wherein the information to be adopted into the new planning data set is transferred by means of a three-dimensional fusion of the contours, drawn in by hand, onto the layers or voxels of the new data set.
- 20 11. The method as set forth in claim 10, wherein fusion involves a graphic elastic morphing method of the information to be fused.
12. The method as set forth in any one of claims 9 to 11, wherein an image
25 detection plane of an imaging device, with the aid of which the planning data set is to be updated, is determined in the image recording range by introducing a calibration phantom comprising markings which can be detected both by image detection and by an external tracking system, wherein a spatial relationship with the patient markings which are not detected by image detection is produced for the images detected.

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13. A program which, when running on a computer or loaded in a computer, causes the computer to perform the method in accordance with any one of claims 1 to 12.

5. 14. A computer program storage medium comprising the program in accordance with claim 13.